November 3, 2022

Memorandum for: Deputy Commissioner, Trials

Re: **Police Officer Helder Santos**
Tax Registry No. 935698
Military and Extended Leave Desk
Disciplinary Case No. 2021-23403

The above named member of the service appeared before Assistant Deputy Commissioner Josh Kleiman on December 8, 9, and 15, 2021, January 13 and 20, and February 9, 2022, and was charged with the following:

DISCIPLINARY CASE NO. 2021-23403

1. Sergeant Helder Santos, assigned to the 112 Precinct, and while temporarily assigned to the Highway District, on or about and between August 19, 2020 and April 19, 2021, wrongfully engaged in conduct prejudicial to the good order, efficiency or discipline of the Department, to wit, said Sergeant Santos did wrongfully ingest cocaine.
P.G. 203-10, Page 1, Paragraph 5 **PUBLIC CONTACT – PROHIBITED CONDUCT**

2. Sergeant Helder Santos, assigned to the 112 Precinct, and while temporarily assigned to the Highway District, on or about and between August 19, 2020 and April 19, 2021, wrongfully engaged in conduct prejudicial to the good order, efficiency or discipline of the Department, to wit, said Sergeant Santos did wrongfully possess cocaine.
P.G. 203-10, Page 1, Paragraph 5 **PUBLIC CONTACT – PROHIBITED CONDUCT**

In a Memorandum dated June 17, 2022, Assistant Deputy Commissioner Josh Kleiman found Police Officer Santos Not Guilty of all Specifications in Disciplinary Case No. 2021-23403. Having read the Memorandum and analyzed the facts of this matter, I disapprove of the findings.

I have considered the totality of the circumstances and issues concerning the charges against Police Officer Santos and have determined that he shall be found Guilty and that a penalty of separation from the Department is warranted.

After reviewing the Report and Recommendation of Assistant Deputy Commissioner, Trials (ADCT) Josh Kleiman, including all the evidence presented at trial, I determined that ADCT Kleiman erred in his finding of Not Guilty.

The Department contracts with Psychemedics Corporation to test samples of hair taken from members of the service during drug testing. The Psychemedics Corporation is certified by the New York State Health Department in forensic toxicology and has been utilized by the Department, as well as several federal and state agencies, including the United States Coast Guard for drug testing. The thorough testing procedures and standards utilized by the Psychemedics Corporation are able to conclude through several independent approaches that, in various combinations, effectively rule out that a positive drug resulted from some form of external contamination, rather than through ingestion. Psychemedics Corporation's testing methodologies have been scrutinized and upheld in legal proceedings and have been evaluated and cleared by the Food and Drug Administration. Further, in an effort to exclude any bias or doubt about a positive test result, a member of the service may elect to have one of the samples tested by an independent laboratory for comparison analysis.

ADCT Kleiman, in making his recommendation of a Not Guilty finding, erroneously focused on one particular aspect of the test result rather than on the entirety of the testing procedures, which when taken as a whole eliminated the possibility of external contamination. ADCT Kleiman also opined that there was some possibility that the disparity in the levels of cocaine from the different samples tested by the Psychemedics Corporation and the laboratory chosen by Police Officer Santos may offer some evidence of an external contamination scenario. It was established at trial that the laboratory used by Police Officer Santos found an even higher amount of cocaine in the sample they tested in comparison to the results from the testing completed by the Psychemedics Corporation. However, ADCT Kleiman and Police Officer Santos's own expert witnesses found Police Officer Santos's explanation for the presence of cocaine in his samples to be improbable. Further, as testified to by the Department's expert witness, the disparity in the testing results could be expected due to the even stricter procedures used by the Psychemedics Corporation in eliminating the possibility of any external contamination.

In this matter, all the samples tested by the Psychemedics Corporation, as well as the laboratory chosen by Police Officer Santos, were scientifically determined to be positive for the presence of cocaine above the minimum thresholds set by the individual testing laboratories. Thus, notwithstanding ADCT Kleiman's reasoning in recommending a Not Guilty finding, the facts of this particular case remain; Police Officer Santos failed the Department's drug testing.

The Department has routinely relied on the results of the testing procedures employed here, and I find no reason to disturb the results of the drug test in the instant matter. I find that Police Officer Santos is guilty of the charges against him.

Therefore, based on the foregoing, in accordance with the Disciplinary System Penalty Guidelines, I have determined that Police Officer Helder Santos shall be immediately Dismissed from the Department.

Keechant L. Sewell
Police Commissioner

POLICE DEPARTMENT

In the Matter of the Disciplinary Proceedings	:	
- against -	:	FINAL
Police Officer Helder Santos	:	ORDER
Tax Registry No. 935698	:	OF
Military & Extended Leave Desk	:	DISMISSAL

Police Officer Helder Santos, Tax Registry No. 935698, having been served with written notice of the Charges and Specifications in Disciplinary Case Number 2021-23403, as set forth on form P.D. 468-121, dated May 3, 2021. After a review of the entire record, Respondent is found Guilty of the charged misconduct.

Now therefore, pursuant to the powers vested in me by Section 14-115 of the Administrative Code of the City of New York, I hereby DISMISS Police Officer Helder Santos from the Police Service of the City of New York.

KEECHANT L. SEWELL
POLICE COMMISSIONER

EFFECTIVE: 11-3-22

The City of New York

POLICE DEPARTMENT

June 17, 2022

In the Matter of the Charges and Specifications	:	Case No.
- against -	:	2021-23403
Police Officer Helder Santos	:	
Tax Registry No. 935698	:	
Military & Extended Leave Desk	:	

At:	Police Headquarters One Police Plaza New York, NY 10038
Before:	Honorable Josh Kleiman Assistant Deputy Commissioner Trials

APPEARANCES:

For the Department:	Christine McGrath, Esq. Department Advocate's Office One Police Plaza New York, NY 10038
For the Respondent:	Stuart London, Esq. Worth, Longworth and London, LLP 111 John Street, Suite 640 New York, NY 10038

To:

HONORABLE KEECHANT L. SEWELL
POLICE COMMISSIONER
ONE POLICE PLAZA
NEW YORK, NY 10038

CHARGES AND SPECIFICATIONS

1. Sergeant[1] Helder Santos, assigned to the 112 Precinct, and while temporarily assigned to the Highway District, on or about and between August 19, 2020 and April 19, 2021, wrongfully engaged in conduct prejudicial to the good order, efficiency or discipline of the Department, to wit, said Sergeant Santos did wrongfully ingest cocaine.

   P.G. 203-10, Page 1, Paragraph 5 — PUBLIC CONTACT – PROHIBITED CONDUCT GENERAL REGULATIONS

2. Sergeant Helder Santos, assigned to the 112 Precinct, and while temporarily assigned to the Highway District, on or about and between August 19, 2020 and April 19, 2021, wrongfully engaged in conduct prejudicial to the good order, efficiency or discipline of the Department, to wit, said Sergeant Santos did wrongfully possess cocaine.

   P.G. 203-10, Page 1, Paragraph 5 — PUBLIC CONTACT – PROHIBITED CONDUCT GENERAL REGULATIONS

REPORT AND RECOMMENDATION

The above-named member of the Department appeared before me on December 8, 9, and 15, 2021, January 13 and 20, and February 9, 2022. Respondent, through his counsel, entered a plea of Not Guilty to the subject charges. The Department called Dr. Ryan Paulsen and Police Officer Erika Gonzalez, as witnesses. Respondent called Police Officer Daniel Lee, Police Officer James Yule, Sergeant Christopher Ottomanelli, Dr. David Kidwell, Ms. Erin Randazzo, Dr. Ernest Lykissa, and testified on his own behalf. A stenographic transcript of the trial record has been prepared and is available for the Police Commissioner's review. Having reviewed all of the evidence in this matter, I find that the record failed to establish by a preponderance of the evidence that Respondent wrongfully possessed or ingested cocaine. Accordingly, Respondent is found Not Guilty of the charged misconduct.

[1] In connection with these charges, Respondent was demoted to the rank of Police Officer on August 18, 2021.

ANALYSIS

Introduction

According to cocaine contamination studies, cocaine is all around us. Trace amounts of cocaine have been found on money, in food sources, in water sources, in rental cars, and on children's school desks (Tr. 482, 600, 615-16; Resp. Ex. F3 at 37-42; Resp. Ex. F). While the amount of cocaine ingested must be significant to reach the cutoff, the amount of cocaine that can contaminate hair follicles to cause a positive result just above the cutoff (5ng/10mg) is vanishingly small and invisible to the human eye (1 teaspoon of pure cocaine, for instance, contains approximately 5 billion nanograms of cocaine). Accordingly, if the hair is externally contaminated with an imperceptibly small quantity of cocaine a positive test could result if the contamination is not removed prior to testing. (Tr. 224, 512-13, 904; Dept. Ex. 23)

Hair, unlike urine, blood, saliva, and sweat, remains outside the body for a substantial period of time before being collected for a drug test. Body hair stays on the body for an average of six to seven months before falling out (Tr. 61, 87). The time window for external contamination, therefore, is long (Tr. 528).

Workplace drug testing is designed, however, to distinguish drug users from persons accidentally exposed to a drug. This is especially important for NYPD employees who can come in contact with cocaine during the course of their law enforcement responsibilities. Drug testing companies achieve these ends through the application of several important features: (1) washing techniques and procedures designed to remove external contaminants, (2) identification of unique metabolites to prove the drug was ingested by the donor, and (3) applying cutoffs that may only be exceeded by way of regular use of the substance or by the ingestion of a substantial quantity of the drug. Each of these tripartite quality control features must be met in order for a

Department drug test to be reported as a positive. A hair sample, for example, may be found to contain a high level of a drug, which exceeds the cutoff, but if it does not contain any of the unique metabolites of the drug, Psychemedics, the laboratory the Department outsources its drug testing to, would report the sample as a negative (Tr. 71).

On April 19, 2021, Respondent submitted three leg hair samples to the Department in connection with a drug test associated with his transfer to a specialized unit (Tr. 667-68). All three samples were reported by Psychemedics as positive for the presence of cocaine and one of the cocaine metabolites, benzoylecgonine. Respondent was, thereafter, served with the instant charges, accusing him of possessing and ingesting cocaine.

At trial, Respondent professed his innocence, claiming that he and his family were completely surprised by the results. Respondent testified that he immediately sought to prove his innocence, submitting to a hair test within 48 hours of receiving the above results (Tr. 674-80). His head hair sample, tested by the same laboratory used by the Department, was negative for cocaine. Respondent, thereafter, submitted a fingernail sample to another laboratory, which was also negative for cocaine. Respondent further testified that over the past year he has regularly tested himself, all with negative results. Respondent had also been drug tested by the Department in January 2021, four months before his April positive result, in connection with a promotion from police officer to sergeant, and those results were also negative for cocaine. At trial, Respondent suggested that he may have been contaminated at the scene of an overdose victim where he and other officers observed white powdery substances.

The Department's expert explained that benzoylecgonine, the primary cocaine metabolite, is not determinative of ingestion because it can be produced outside the body. On rebuttal, the Department had Psychemedics retest Respondent's B-sample for another set of

metabolites that it claimed were only produced by the body, *para*- and *meta*-hydroxycocaine, which the laboratory reported as positive. The Department's expert admitted, however, that the testing of hydroxycocaines in connection with workplace drug tests was "a new area of inquiry" and that "at present there is not a consensus guideline" as to how they should be interpreted (Tr. 1068).

For the reasons set forth below, the Tribunal finds that the Department, upon the unique circumstances presented in this disciplinary matter, has failed to prove that the testing of Respondent's April 19, 2021 hair samples sufficiently distinguished between ingestion and external contamination. Accordingly, Respondent is found Not Guilty of the misconduct charged.

Collection of Hair Samples

Respondent did not raise any chain of custody concerns regarding his three leg hair samples (Samples A, B, and C) collected by Department on April 19, 2021. It was not disputed that Respondent's A-sample and B-sample were taken from the calf area of his left leg and his C-sample was taken from the shin area of his left leg. (Tr. 284-85)

Samples A and B were sent by the Department to Pyschemedics for drug testing. Sample C was stored in a locked container at the Drug Testing Unit for safekeeping. Upon receipt of a positive result, the donor is given the option to have their C-sample tested by another drug testing laboratory.

Laboratory Techniques and Procedures Applied

At trial, the Senior Analytical Chemist for Mass Spectrometry at Psychemedics Corporation, Dr. Ryan Paulsen, testified to the laboratory techniques and procedures applied to

hair samples being tested for cocaine use, including Respondent's A and B-samples (Tr. 42).[2] Dr. Paulsen explained that when A and B hair samples are received by Psychemedics they are each assigned an anonymous laboratory accession number (LAN) (Tr. 48).

Beginning with the A-sample, an eight milligram portion of the hair sample is removed for testing, referred to as an "aliquot." The aliquot is then dissolved in a digest. which is tested for the presence of drugs using an enzyme immunoassay test (Tr. 51).

If the drug is found to be present above a predetermined cutoff level (5ng/10mg), a second aliquot is removed from the same hair sample for the performance of a confirmation test (Tr. 51, 54). The confirmation test is markedly different from the screening test, beginning with an extensive washing process.

The Psychemedics washing technique applied to a hair aliquot is an essential step in the drug testing process as its purpose is to remove external contaminants from hair samples that could skew testing results. According to Dr. Paulsen, the Psychemedics washing technique is based on a good deal of research, known as "kinetic studies," which measure the effectiveness of washing techniques in removing external contaminants from hair (Tr. 53).

The Psychemedics washing procedure consists of a 15-minute isopropanol wash, followed by three 30-minute phosphate buffer washes and two 1-hour phosphate buffer washes (each of which contain bovine serum albumin). The hair is agitated in these solutions in a "rocker bath" at 37 degrees, after which the washing liquid is removed and replaced with a fresh wash. (Tr. 52, 368-69, 887)

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[2] The parties stipulated that Dr. Paulsen is an expert in forensic toxicology. Dr. Paulsen has also been qualified by the New York State Department of Health in forensic toxicology. Psychemedics has tested hair since 1987 and is certified in hair drug testing by the New York State Department of Health. In addition to the NYPD, Psychemedics tests hair for the U.S. Coast Guard, and many Federal Reserve banks and schools. (Tr. 42, 45-47)

The final washing liquid from the last wash is analyzed for the presence of drugs to ensure that the washes are not continuing to remove drugs from the hair (Tr. 52). If a measurable amount of drug is present in the final wash, the amount is multiplied by five and subtracted from any amount of the same drug found in the hair at the conclusion of the testing, referred to as a "wash factor," "wash criteria," or "extended wash kinetics calculation" (Tr. 72; Dept. Ex. 10 at 4; SAMHSA Guidelines at 56112).

Following the washing procedure, the hair aliquot is digested and the resulting solution is cleaned of solids by subjecting it to a "solid phase extraction." The resulting digest is then analyzed via an "LCMSMS" test (liquid chromatography tandem-mass spectrometry). The LCMSMS process separates compounds and characterizes them based on their mass properties.[3] (Tr. 52-55)

If a measurable amount of an illicit drug and one or more of its metabolites is found during the LCMSMS test, the amounts are compared to pre-determined cutoff levels (Tr. 54). If the amount is over the cutoff, the testing procedures and data are reviewed by a certified scientist to ensure that the laboratory process resulting in the positive result met all the Psychemedics "reporting criteria." If so, a final report is issued finding the A-sample to be positive. (Tr. 55-56)

Following an A-sample being determined to be positive, Psychemedics initiates the testing of the B-sample, which proceeds under a different Laboratory Accession Number to maintain chain of custody. The initial immunoassay screening is skipped and the B-sample aliquot is sent directly to washing and LCMSMS testing, conducted in the same manner as the A-sample. If the B-sample results fail to meet the reporting criteria the test results for both the A

[3] The mass spectrometry device utilized by Psychemedics can detect compounds as small as 0.25 nanograms per 10 milligrams (known as a Limit of Quantification or "LOQ") (Tr. 55).

and B-samples are reported as negative. If the B-sample aliquot is determined to meet the reporting criteria, the Department is notified that the donor has tested positive. (Tr. 56)

Drug Test Results

When Psychemedics subjected an aliquot from Respondent's A-sample, which consisted of 2.6 centimeters of leg hair, to LCMSMS testing, it was found to be positive, containing 5.95 nanograms of cocaine (COC) per 10 milligrams. The A-sample aliquot also tested positive for the main cocaine metabolite, benzoylecgonine (BE), at 0.65 nanograms per 10 milligrams. The cutoff for BE is 5% of the cocaine amount. If it was found to be less than 5% of the cocaine amount, the test result would have then been reported as a negative. Here, the BE amount was nearly 11% of the cocaine amount. While the A-sample was also found to contain another metabolite, norcocaine (NC), at 0.37ng/10mg, it was below the cutoff of 0.5ng/10mg. The A-sample was found to contain no cocaethylene (CE), the only other metabolite other than BE and NC routinely tested by the Department. No drugs were detected in the final wash of the A-sample. (Tr. 60-62, 70-71; Dept. Ex. 2 at 4, 50)

When Psychemedics tested an aliquot from Respondent's B-sample, which consisted of 2.5 centimeters of leg hair, it was found to be positive, containing 6.54ng COC per 10mg. The B-sample also tested positive for BE at 0.77ng/10mg. The BE amount in the B-sample was nearly 12% of the cocaine amount. The B-sample was also found to contain NC at 0.58ng/10mg, which was above the cutoff,[4] and no CE was found ("0.00"). No drugs were detected in the final wash of the B-sample prior to testing. (Tr. 67-68, 70; Dept. Ex. 2 at 4, 108)

[4] Dr. Paulsen testified that a positive for norcocaine (NC) is not determinative of ingestion (Tr. 796-97). There is no evidence in the record that a positive for norcocaine in conjunction with a positive for benzoylecgonine is determinative of ingestion either.

Upon receiving a positive result for cocaine, a member of the service is informed of the result, suspended from service, and relieved of their firearms, while an investigation ensues. The investigation has two primary purposes: (1) to determine whether the officer unintentionally ingested the prohibited substance and the source of any unintentional ingestion, and (2) to determine whether the officer intentionally ingested the illicit drug in a legitimate way, such as by taking a prescribed medication containing the prohibited substance. A Department doctor reviews any such evidence and then makes a determination as to whether the positive result should be accepted by the Department. Assuming it is, as it was here, the subject officer is charged with ingesting and possessing the illegal substance and, in many cases, as here, a Department trial results.

Respondent availed himself of the option of having his C-sample tested by another laboratory. On May 7, 2021, Respondent's C-sample was sent to Quest Diagnostics laboratory (Dept. Ex. 3 at 91). Quest Diagnostics reported that an aliquot from Respondent's C-sample was found to be positive, containing 22.55 nanograms COC per 10 milligrams (Dept. Ex. 3 at 26, 69). The C-sample also tested positive for the cocaine metabolite BE at 3.7ng/10mg, which was over 16% of the COC amount (Dept. Ex. 3 at 29, 68).[5] The sample was also found to contain NC at 2.2ng/10mg (Dept. Ex. 3 at 71-72). Respondent stipulated to the admission of these results.

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[5] While hair samples are not homogenous and some differences between samples are expected, the differences between Respondent's April 2021 Psychemedics results and Respondent's Quest-tested C-sample results were unusually disparate. When asked how Respondent's C-sample could contain 3.6 times more cocaine than the A/B-samples, Dr. Paulsen explained that Quest Diagnostics employs a different wash procedure than that applied by Psychemedics (Tr. 76-80, 132). While Dr. Kidwell and Dr. Lykissa agreed that Quest employs a different decontamination procedure than Psychemedics and Dr. Lykissa believes that Psychemedics does a better job decontaminating hair than Quest (Tr. 381-382, 648), they each concluded that the highly divergent results suggest that Respondent's hair samples were contaminated (Tr. 391, 631). On Rebuttal, Dr. Paulsen testified that due to differences in the washing procedures between Quest and Psychemedics he would expect Quest results, on average, to show drug concentrations at a higher level than Psychemedics (Tr. 1005-1006). The Tribunal did not find this to be true in prior cocaine positive hair results to come before the Tribunal wherein A/B-samples were tested by Psychemedics and the C-samples were tested by Quest Diagnostics. None involved variances as high as those presented in this case and in many cases the concentrations reported by Quest were lower than those reported by Psychemedics (*Disciplinary Case Nos. 2016-15268, 2010-9490, 2006-82283, 2010-86365, 2010-86122, 2006-*

On April 29, 2021, two days after Respondent was informed of the positive results, he arranged for a private drug test, submitting a head hair sample to LabCorp. The parties stipulated to the admission of a video showing the collection of Respondent's hair on April 29, 2021 (Tr. 550-52; Resp. Ex. G). By mere happenstance, LabCorp outsourced the testing of the hair sample to Psychemedics. An A-sample aliquot, measuring 2.5 centimeters, was tested and reported as negative for cocaine by Psychemedics. Since the A-sample was not positive during the initial screening test, the sample did not undergo LCMSMS analysis and the B-sample was not tested (Tr. 84, Resp. Ex. B).

On May 10, 2021, Respondent traveled to RaBu Diagnostics,[6] a drug testing collection facility in Garden City, NY, for the taking of fingernail clippings and shavings. Respondent's fingernail sample was sent to ExperTox laboratory in Deer Park, TX, for testing. The results were negative for cocaine. The laboratory director of ExperTox testified at trial and the results of the test were admitted in evidence.[7] (Tr. 681; Resp. Ex. C)[8]

82251). The highest disparity found was a Quest sample that was 2.2 times higher than the Psychemedics results (*Disciplinary Case No. 2010-3064*).

[6] Respondent called Ms. Erin Randazzo, the owner of RaBu Diagnostic Services, as a witness (Tr. 557-58). She described the collection procedures at her lab and explained that one of her employees would have collected fingernail shavings and clippings from Respondent equivalent to the size of a quarter. (Tr. 564-75) As the custody and control form indicates (Resp. Ex. C at 1), Respondent's fingernail samples were collected on May 10, 2021, at 10:25 a.m. by her employee, Kenia Mizhinmbay, and were received by ExperTox on May 12, 2021.

[7] Dr. Ernest Dimitri Lykissa was qualified as an expert in forensic toxicology. Dr. Lykissa has a Bachelor of Sciences and Masters of Science in Microbiology and a Ph.D. in Molecular Pharmacology. He has been employed in the fields of toxicology and pathology since 1980 and founded ExperTox in 2000. His duties as a Laboratory Director are to ensure that the lab functions in accordance with the criteria established for forensic and clinical laboratories by the College of American Pathologists and the Texas Forensic Science Commission. He has testified as a forensic toxicologist for federal government agencies, including the FBI, "numerous times." He has also been qualified as an expert in forensic toxicology in "a number of states, including New York." (Tr. 579-584; Resp. Ex. I)

[8] Other than the aforementioned drug tests, Respondent testified that on July 28, 2021, he submitted chest hair and toenail samples to Paymer Associates, a drug testing collection company in Connecticut. According to Respondent, the results were sent to United States Drug Testing Laboratories and tested negative for cocaine. No laboratory personnel or chain of custody witnesses testified at trial as to these tests. While the results were marked for identification (Resp. Exs. D1 and D2) and were admitted into evidence for the limited purpose of permitting the

Additionally, on January 5, 2021, four and a half months prior to his April 19, 2021 drug test, Respondent submitted to a Department drug test in connection with his promotion from police officer to sergeant (Tr. 658). Respondent's leg hair sample tested negative for cocaine (Resp. Ex. A at 4). Since the A-sample was not positive during the initial screening test, the sample did not undergo LCMSMS analysis and the B-sample was not tested (Tr. 80-81, 366-367; Resp. Ex. A).

Reliability of Benzoylecgonine as a Unique Metabolite of Cocaine

The only metabolite reported as a positive to the Department in Respondent's April 2021 test results was benzoylecgonine. A metabolite is the chemical compound that the liver produces upon ingestion of a drug to eliminate it from the body. While in urine one would, typically, expect to find only one or more of the drug's metabolites, in hair both the drug and its metabolites are typically found since the drug circulates in the blood before it is fully metabolized (Tr. 62-63). An essential premise in drug testing is that the presence of a unique metabolite (one only produced by the body when ingesting the parent drug) proves that the drug was ingested.

At trial, however, the Department's expert acknowledged that BE is not a unique metabolite of cocaine since it may be produced outside the body and "can form within the keratinized structure [of hair follicles] either before collection or during storage" (Tr. 815; Resp. Ex. J).

He concluded that BE is not determinative of ingestion:

> COMMISSIONER KLEIMAN: Do you believe [BE] is a sufficient basis on which to determine ingestion?

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other expert witnesses to be shown the results, they were not admitted into evidence for the truth of their content. (Tr. 99-107, 464-65, 701-10, Resp. Exs. D1 & D2)

DR. PAULSEN: Not on its own.

COMMISSIONER KLEIMAN: When you said "on its own," do you mean in conjunction with cocaine?

DR. PAULSEN: Yes, and all the wash criteria.

COMMISSIONER KLEIMAN: All right. I want to understand that answer. So you don't believe that BE to COC ratio is enough to determine ingestion; is that correct?

DR. PAULSEN: Correct.

(Tr. 973-74)

Accordingly, the Department expert admitted that BE is not only capable of being formed outside the body, but the Psychemedics cutoff for BE does not rule out BE formation outside the body. This position was corroborated by the principal study entered into evidence by the Department, a 2014 study by the FBI (Dept. Ex. 10 [the "2014 FBI Study"]). That study concluded, "Based upon these external contamination studies and our results, there appears to be little utility in measuring BE or BE/COC ratios in hair" (Dept. Ex. 10, at 6; Tr. 139, 926-27).

Respondent's Trial Testimony

Respondent testified that he has been a member of the service for 17 years and has been subject to NYPD drug testing on five occasions prior to the April 19th test, all of which were negative (Tr. 657). During his suspension period, Respondent found a library nearby to where he was required to check-in each work day. He spent eight months researching drug testing and hair testing at the library. Since he knew he had not consumed cocaine, he wanted to understand how a hair test could nevertheless produce a positive. (Tr. 682)

Respondent described himself as "a family man" who does not go out to bars and has never used cocaine in his "entire life." He has been married for 13 years and he has two children, 8 and 5, who are home schooled by him and his wife. Respondent testified that his weekly

routine prior to receiving the positive drug results consisted of a 4pm to 12am shift at work, after which he went home to sleep, woke up at around 7/8 a.m., helped get his kids ready for school, and then began their home-schooling. Respondent, typically, teaches his son, while his wife instructs their daughter. Around noon, he starts getting ready for work and may exercise. He and his family were completely surprised by the April 19 positive result. (Tr. 665-67, 684-85, 699)

Respondent testified that beginning in July 2021 and every three months, thereafter, he submitted head hair samples using the US Mobile Drug Testing company, all of which tested negative (Tr. 683). He further testified that on July 28, 2021, he submitted a chest hair and toenail sample, which also tested negative. (Tr. 681)

Possible Contamination Scenario

Respondent called several witness to testify about his presence at the scene of an overdose victim at which white powdery substances were observed. Police Officer James Yule, assigned to the 112th Precinct, testified that on April 8, 2021, at 7:17 p.m., he responded to call of a possible overdose. Upon arrival, he and his partner were met by individuals who stated that their friend has passed out and was not responding. The officers escorted emergency medical technicians (EMTs) to the location of the individual (Tr. 321). The EMTs administered Narcan, which is used to treat opioid overdoses (Tr. 313-14, 321). The victim was placed in cuffs temporarily for the safety of the officers. When the victim woke up, he claimed that he had only smoked "weed" (Tr. 322).

Approximately five minutes later, Respondent arrived on scene (Tr. 322). Police Officer Yule's partner handed Respondent the victim's ID card. Another police officer who responded to the scene with Respondent, Police Officer Daniel Lee, also assigned to the 112th Precinct, remembered that Respondent handled the victim's driver's license without gloves (Tr. 303).

Both Police Officers Yule and Lee testified that they remembered seeing a white powdery substance at the scene. Police Officer Lee testified that he observed a "white powdery substance" on a black cabinet in the victim's apartment (Tr. 306, 312). He stated that the substance was not vouchered as it was a "very small insignificant amount" and "[w]e were there for an aided case" (Tr. 306). Police Officer Yule remembered seeing "a small gum wrapper on one of the dressers that did have a very light coating of powder on it" (Tr. 323). Police Officer Yule explained that despite the presence of possible narcotics, officers do not typically make arrests on overdose calls in order to encourage people to call police in overdose scenarios (Tr. 323-24).

Respondent testified that the only time he remembers being around a white powdery substance during the time frame in question (January through April) was on April 8, 2021, at the scene of the overdose victim described above. He remembered seeing white powdery substances on top of a speaker in the apartment, on the floor, and on a desk (Tr. 687). The victim was known as a frequent overdoser and the victim's friend was a known cocaine dealer in the 112 Precinct (Tr. 698).

Respondent testified that, while at the scene, he handled the victim's license with his bare hands for "a long period of time" (Tr. 688-89). Eventually, he asked another officer for gloves. Before placing the gloves on, however, he asked for hand sanitizer. He rubbed his hands with hand sanitizer while holding the victim's license, which he sandwiched between his hands. He then wiped his hands, which were "dripping" with hand sanitizer, on the fabric of his Department issued polyester pants, specifically on his left leg from his knee to his ankle (Tr. 690-91, 744, 756-57). After being handed the victim's ID, Respondent was in possession of the ID until he left

the victim's apartment, at which time he handed the ID to Police Officer Yule to bring to the victim at the hospital (Tr. 718, 732-34).

Respondent stated that when he left the scene, he used more hand sanitizer and again wiped it on his lower left leg (Tr. 693). He explained that he was a frequent user of hand sanitizer user and his "ritual" was to dry his hands on his pant leg (Tr. 692-93, 757-58). Respondent testified that the area of his leg that he used as a towel is consistent with the area where his April 19 hair samples were taken from (Tr. 691).

On cross-examination, Respondent admitted that in an Unusual Occurrence Report concerning the April 8, 2021, overdose, which he prepared the same day, he wrote, "No drug paraphernalia found at the location" (Tr. 742; Dept. Ex. 21). Respondent explained that he did not consider white powdery substances to be "drug paraphernalia" because they are not a "device . . . or something . . . to actually use a drug with" (Tr. 749).

The Department entered the body-warn camera videos of several officers who responded to the scene. Respondent can be seen on video handling the overdose victim's driver's license. The body camera videos, however, do not capture Respondent's entire presence on scene, as the videos end shortly after the victim is taken out of the apartment. Respondent remained on scene to await the response of a Duty Captain and to complete paperwork. Respondent's use of hand sanitizer, and his stated habit of wiping his hands on the pant leg of his left calf, are not shown on video. Respondent testified that that his first use of hand sanitizer was not captured by the body worn camera videos in evidence, but occurred while he was still in the victim's apartment and before the Duty Captain arrived (Tr. 734-35).

Department's Rebuttal – The Retest for Hydroxycocaines

At the start of their rebuttal case, the Department informed the Tribunal that it had conferred with Dr. Paulsen and determined that a sufficient amount of Respondent's hair samples in storage at Psychemedics remained to be tested for another category of cocaine metabolites known as hydroxycocaines, of which there are three, identified by their prefixes: *meta*, *ortho*, and *para*. The Department claimed that it had an ethical obligation to test for these metabolites since Dr. Paulsen had informed them that if Respondent's samples were negative for the presence of hydroxycocaines, Respondent's results would no longer be consistent with ingestion (Tr. 771, 844-45). The Department admitted that while hydroxycocaine testing had not been done by the Department before in connection with cocaine positive employees, an exception would be made in this case. Dr. Paulsen opined that the reason hydroxycocaine testing is not a part of normal testing procedures is due to the higher cost of such testing. Dr. Paulsen is aware of only one case, of a U.S. postal worker, in which hydroxycocaine results were used to determine employment (Tr. 822-24).

Respondent stipulated that the hydroxycocaine results could be reported to the Tribunal, assuming a cutoff was applied (Tr. 843). The parties agreed that the cutoff applied would be that the *meta*- or *para*-hydroxycocaines would have to be at least 0.05% of the cocaine amount, a cutoff that derives from a paper Dr. Paulsen wrote in 2020 on the subject of hydroxycocaine testing and one that Dr. Paulsen continued to endorse at trial (Tr. 840-43, 985-87).

Only the B-sample was tested, due to an insufficient amount of the A-sample being present due to "spillage" (Tr. 872-73). Since the B-sample already underwent the initial screening test and was positive for cocaine, the new B-sample aliquot was sent straight to

washing and LCMSMS analysis for the presence of cocaine and its metabolites, including the hydroxycocaines (Tr. 858-59).

The results of the testing found that the B-sample was positive for cocaine at 7.02ng/10mg, benzoylecgonine at 0.94/ng/10mg, norcocaine at .67ng/10mg, *meta*-hydroxycocaine at 2.5pg/mg, *ortho*-hydroxycocaine at 1.5pg/mg, and *para*-hydroxycocaine at 1.5pg/mg. (Tr. 867; Dept. Ex. 22 at 54). Both the *meta*- (0.36%) and *para*-hydroxycocaines (0.21%) were present above the Psychemedics quantification cutoff of 1pg/mg and the Psychemedics cutoff ratio of 0.05% of the cocaine amount (*Id.*).

Reliability of Hydroxycocaines as Unique Metabolites of Cocaine

A debate ensued at trial as to whether Respondent's positive hydroxycocaine results would have been reported as a positive for drug use under the parameters set by a 2014 FBI study (Dept. Ex. 10 at 7).[9] The FBI study appears to use a quantification cutoff for hydroxycocaines of 5pg/mg and all of Respondent's hydroxycocaine results were below 5pg/mg. The FBI study did not apply any cutoff ratio. Dr. Paulsen explained that the FBI applies their Limit of Detection (LOD) as their cutoff, which he took to mean they were looking for any presence of hydroxycocaines (Tr. 876; Dept. Ex. 10 at 4). This argument finds support in the study since the FBI reports the numerical values detected for all metabolites except hydroxycocaines, which it only reports as positive or negative (Dept. Ex. 10 at 5). Dr. Paulsen

[9] The study endorsed the use of hydroxycocaines as unique metabolites of cocaine (Dept. Ex. 10, at 6). It did so based on its findings that head hair samples from 27 drug chemists with chronic occupational exposure to cocaine tested negative for NC, CE, and all of the hydroxycocaines, while one "self-proclaimed COC user" tested positive for *para*- and *meta*-hydroxycocaine (testing negative for *ortho*-hydroxycocaine), and of 10 hair samples from postmortem "documented drug users" (collected between 1992-1994 and in 2011), who tested positive above the cutoff of 5ng/10mg for cocaine, all tested positive for *meta*- and *para*-hydroxycocaine and five tested positive for *ortho*-hydroxycocaine (*Id.* at 4-5). The study further found that while "seized COC-samples have been found to contain CE and NC," "[s]eized COC-samples have never been found to contain the aryl hydroxycocaines (*para* and *ortho*) and only very trace levels of *meta*-hydroxycocaine" (*Id.* at 7).

explained that Psychemedics, on the other hand, uses hydroxycocaine testing equipment that is more sensitive, with a Limit of Quantification (LOQ) of 0.4pg/mg (over ten times more sensitive than that used by the FBI) (Tr. 909-11). Nevertheless, Psychemedics applied a quantification cutoff of 1pg/mg for hydroxycocaines (Dept. Ex. 22 at 4).[10]

The parties accepted that *ortho*-hydroxycocaine is produced outside the body and not by the body (Tr. 925). For this reason, Psychemedics only reported positive values of *meta*- and *para*-hydroxycocaines as indicative of ingestion in Respondent's results. Respondent's sample, however, also tested positive for *ortho*-hydroxycocaine. Dr. Kidwell,[11] an expert witness called by Respondent, testified that this result was a clear indication of contamination:

> [O]rtho-hydroxycocaine can only come from a chemical degradation of the cocaine molecule. It doesn't come from the human body. So the finding of ortho hydroxycocaine in the hair, to me, is [] prima facie evidence that the hair sample is contaminated, because it could not have come there from the human body. So if you find it after whatever decontamination process to me it means that you have not satisfactorily decontaminated the hair, and therefore the results that you get don't have a lot of meaning. . . . Most of the time you don't find the ortho. So it's not – it's not an issue. In this case, I think it's a big issue. That it shouldn't be there and you find it.
> (Tr. 1032-1033, 1047).

Dr. Kidwell further explained that the *para* and *meta* should be discarded when *ortho* is found because "when you expose cocaine to external chemicals, it makes all of them. It doesn't make equal ratios. It makes them whatever ratio you can have depending on the reaction, but it tends to

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[10] After trial, Respondent's attorney filed a Motion to Dismiss claiming that the hydroxycocaines detected by Psychemedics in Respondent's sample were below the 5pg/mg quantification cutoff set forth in the 2014 FBI Study, which Respondent claimed the parties had agreed to. That motion is denied based on clear factual error. The parties agreed to the cutoff ratio established in Dr. Paulsen's 2020 hydroxycocaine study establishing a cutoff ratio of 0.05% of the cocaine amount, which was met and exceeded in the results (Tr. 840-43).

[11] Dr. Kidwell has a Ph. D. in Organic Chemistry, has been a research chemist at the Naval Research Laboratory for 37 years, has published well-over a dozen articles in forensic science journals on the subject of hair drug testing, many of which concern cocaine, has been qualified as an expert in the area of hair testing for cocaine at least a dozen times and has never been rejected as an expert, has testified before Congress on the subject of drug testing, and has assisted SAMSHA in writing regulations regarding drug testing in the federal workplace. (Tr. 352-57; Resp. Ex. E)

[make] para and meta more than ortho, at least the chemicals and the agents we used when we did this hydroxy testing back five years ago now" (Tr. 1033-34).

Dr. Kidwell related that when he worked with customs and DEA agents, he learned that cocaine is often manufactured to appear pure white, which is achieved by oxidizing the cocaine "and that's where norcocaine and the hydroxy metabolites degradation comes from is during that process." He also testified that "as cocaine is stored in the environment, this oxidization can also occur," but was unlikely to occur when stored in a lab (Tr. 1055-56).

Dr. Paulsen disagreed with Dr. Kidwell's analysis and conclusions stemming from the *ortho*-hydroxycocaine results. Dr. Paulsen explained that the presence of *ortho* was likely due to the oxidation of hair follicles. In the 2020 study he conducted (Resp. Ex. J), he found that *meta*- and *para*-hydroxycocaine values did not change when hair samples were exposed to peroxides, which he described as "powerful oxidizing agents" (Tr. 1061). The only hydroxycocaine concentration that changed after oxidation was the *ortho*-hydroxycocaine (Tr. 1061-62). He opined, "[t]he *para* and *meta* are metabolic products. In our study, they do not show tendency to increase in concentrate relative to cocaine in the presence or in the exposure to peroxide which would be intense oxidizing" (Tr. 1064).

Dr. Paulsen acknowledged that his 2020 study showed that *ortho*-hydroxycocaine was found to be 6.4 times higher in body hair than in head hair, while *para* hydroxycocaine and *meta*-hydroxycocaine were 5.6 and 4.2 times higher respectively in body hair than in head hair (Tr. 1018-19; Resp. Ex. J at 9). When asked why, Dr. Paulsen replied that "[i]t has something to do with growth rates," suggesting that another study should be done on this question in which hair and body hair samples are taken from the same individuals (Tr. 1016-18). All of the hair samples tested in the 2014 FBI Study were head hair samples (Dept. Ex. 10 at 2).

Dr. Kidwell further criticized hydroxycocaine testing as not widely accepted in the scientific community. "[I]t really hasn't been argued about or enough to say what does it mean, unlike BE which has been argued" (Tr. 1047). Dr. Kidwell also took issue with the cutoff used by Psychemedics for hydroxycocaines: "[T]here is no guideline for the hydroxycocaines. So they can make whatever they want up, and I think they pick it a little low" (Tr. 1046).

When Dr. Paulsen was asked whether he agreed with Dr. Kidwell that hydroxycocaine testing is not widely accepted and not argued about enough, Dr. Paulsen responded, "It's a new area of inquiry in the newspapers recently mostly, the better papers fairly recent. I think that would change, but at present there is not a consensus guideline" (Tr. 1068). Dr. Paulsen stated that he is not aware of any clients of Psychemedics that are regularly using hydroxycocaine testing. He also said that it is not testing that he recommends "as a matter of course." (Tr. 944-45).

The only mention of hydroxycocaines in the 2020 SAMHSA Guidelines[12] is as follows:

> In addition, although hydroxylated metabolites of cocaine and benzoylecgonine do not meet the Guidelines definition of a unique metabolite for hair, these analytes have been touted in the literature as being diagnostic of cocaine use when ratio criteria are applied to the quantitative results. Hydroxy-metabolites of cocaine were originally thought to be unique metabolites as defined in the HMG, until these compounds were identified in street cocaine samples and found to be produced during hair treatment experiments. More recently, hydroxy-metabolites of benzoylecgonine were identified in hair and thought to represent a new opportunity to reliably identify cocaine use. However, these analytes also have been detected in a limited study of street cocaine samples, and were found to form and increase in concentration over a period of eight weeks after contamination of seven subjects' hair with cocaine. To compensate for these issues, researchers have proposed the

[12] In 2020 SAMHSA (the Substance Abuse and Mental Health Services Administration), an agency within the Department of Health and Human Services (HHS), authored proposed guidelines for federal workplace drug testing. Since the SAMHSA Guidelines were referenced many times over the course of the trial and are published in full in the Federal Register, the Tribunal takes judicial notice of the most recent SAMHSA Guidelines, in existence as of April 19, 2021, when Respondent's hair samples were taken (*available at* https://www.govinfo.gov/content/pkg/FR-2020-09-10/pdf/2020-16432.pdf). The Tribunal is not aware of any other proposed guidelines for hair testing issued by a government agency, either in New York State or nationally.

> use of ratios and criteria schemes (i.e., detection of multiple metabolites at or above proposed cutoff concentrations and within certain ratios to each other).

SAMHSA Guidelines at 56113.

Findings

The essential issue presented to the Tribunal is whether a preponderance of the evidence establishes that the cocaine found to be present in Respondent's April 19, 2021 leg hair samples was from ingested cocaine. The principal evidence presented by the Department are the Psychemedics test results. The Department sought to establish the reliability of the results through the testimony of an expert witnesses, Dr. Paulsen, who testified that Psychemedics was able to reach a finding that Respondent ingested cocaine based on three primary findings as to Respondent's samples: (1) after washing, cocaine and one or more of its metabolites remained in the hair sample, (2) that the cocaine amount was above a reliable cutoff, and (3) that one or more unique cocaine metabolites were present at a reliable cutoff ratio. While the Department proved that an amount of cocaine, BE, and hydroxycocaines, above their respective cutoffs, survived the Psychemedics wash criteria, the Department has failed to prove by a preponderance of the credible evidence that Respondent's April 19 samples contained metabolites of cocaine determinative of ingestion.

Respondent's charges were based upon Psychemedics results finding the presence of only one metabolite above the cutoff, benzoylecgonine. At trial, however, the experts, including the Psychemedics expert, were in agreement that benzoylecgonine is *not* determinative of ingestion and may be formed outside the body, including on cocaine-contaminated hair stored in a lab (Tr. 813-14).[13] The 2014 FBI Study reported the same findings, concluding: "Based upon these

[13] Indeed, when Respondent's B-sample was re-tested for hydroxycocaines, the benzoylecgonine concentration increased by 22% from the level recorded in the April 2021 results (*compare* Dept. Ex. 2 at 108 *with* Dept. Ex. 22 at 26).

external contamination studies and our results, there appears to be little utility in measuring BE or BE/COC ratios in hair" (Dept. Ex. 10 at 5-6). Since the only metabolite reported as positive by Psychemedics in April 2021 was benzoylecgonine, upon which the charges were based, the Tribunal finds that the preponderance of the evidence does not support a finding that Respondent possessed or ingested cocaine based on the April 2021 Psychemedics test results.

In this case, however, the testing continued after Respondent's trial commenced, and had nearly concluded. Ten months after Respondent's hair samples were collected by the Department, after Respondent had rested and during the Department's rebuttal case, the Department decided to retest Respondent's B-sample for hydroxycocaines. The Department couched the hydroxycocaine testing upon an ethical duty to pursue evidence that might exonerate Respondent, explaining that if the hydroxycocaines were absent then it would likely move to dismiss the charges. When the results found the presence of hydroxycocaines, however, the Department sought to use the results as positive evidence of Respondent's guilt. Respondent did not object.

The weight to be given the hydroxycocaine results, however, was very much in dispute. Dr. Paulsen testified that the hydroxycocaine results proved ingestion since, he claimed, *para*- and *meta*-hydroxycocaine are only formed in the body. Dr. Kidwell testified, however, that the presence of *ortho*-hydroxycocaine was "prima facie" evidence that the hair sample was contaminated since *ortho*-hydroxycocaine is not produced in the body.

The 2014 FBI study endorsed hydroxycocaine testing, but used a cutoff for hydroxycocaine values of 5pg/mg, which were not met by Respondent's results. Psychemedics, however, applied a cutoff five times lower than the cutoff applied by the FBI. While Dr. Paulsen persuasively explained that the FBI's equipment's sensitivity was 5pg/mg, and the Psychemedics

equipment was more sensitive, the Tribunal has no way of knowing whether the results and findings of the FBI study would have changed were a substantially lower cutoff applied. The only other hydroxycocaine study submitted to the Tribunal was authored by Dr. Paulsen in 2020 and does not itself study hydroxycocaine levels in cocaine contaminated hair, but discussed two other studies where *para*- and *meta*-hydroxycocaines were found in cocaine-contaminated samples prior to washing.[14] The 2020 SAMHSA guidelines have not proposed any criteria for hydroxycocaine testing and specifically states that hydroxycocaines "do not meet the Guidelines definition of a unique metabolite for hair."

It is undisputed that hydroxycocaine testing is not widely established or generally accepted. Dr. Paulsen admitted that the use of hydroxycocaine testing to determine cocaine use was "a new area of inquiry" and "at present there is not a consensus guideline[s]." Indeed, he is only aware of one case in which it was used by an employer to determine employment status. Dr. Paulsen suggested that further studies should be done. For instance, he did not know why the concentration of hydroxycocaines in body hair was 4.2-6.4 times higher than in head hair. Dr. Paulsen further testified that he does not recommend hydroxycocaine testing "as a matter of course" (Tr. 944-45).

New York requires that expert testimony rely on scientific techniques and procedures "generally accepted as reliable by the relevant scientific community." (Prince, Richardson on Evidence § 7-311 ["New York imposes the requirement that the expert rely on tests or procedures generally accepted as reliable by the relevant scientific community, a standard articulated in *Frye v. US* [] and consistently applied by the New York courts to measure the

[14] The exhibit claims that in one of the studies, the hydroxycocaines were washed out after applying a Psychemedics-like washing technique, but the exhibit does not report the length of time between contamination and testing, or the duration of the contamination, in that study. (Resp. Ex. J at 14)

admissibility of scientific evidence."]). While the Supreme Court's decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 US 579 (1993) rejected the "general acceptance" standard, "assign[ing] to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand" (Prince, Richardson on Evidence § 7-311), so far, New York has not adopted the *Daubert* standard. Rather, as the venerable former Chief Judge of the New York Court of Appeals, Judith Kaye, instructed: "It is not for a court to take pioneering risks on promising new scientific techniques, because premature admission both prejudices litigants and short-circuits debate necessary to determination of the accuracy of a technique. Premature acceptance of 'revolutionary' forensic techniques has led to wrongful conviction" (*People v. Wesley,* 83 NY2d 417, 437, n 4 [1994] [Kaye, C.J., concurring] [*citing* Giannelli, *The Admissibility of Novel Scientific Evidence: Frye v. United States, a Half-Century Later*, 80 Colum L Rev 1197, 1224-1225 [discussing belated discovery of inaccuracy of paraffin test]; Neufeld and Colman, *When Science Takes the Witness Stand,* 262 [No. 5] Scientific Am 46 [discussing belated discovery of inaccuracy of gunpowder detection test]).

Typically, the "general acceptance" of a scientific test or technique may be established in one of three ways: (1) by judicial notice if the test or technique is ubiquitous, (2) by reference to "legal writings and judicial opinions" where it has been accepted by other courts, or (3) where the proponent of the test or technique establishes that it is "generally accepted" by offering persuasive evidence, such as expert testimony on the subject (Prince, Richardson on Evidence § 7-311). Once established it is left to the trier of fact to weigh the evidence (*Id.*).

The Tribunal finds that hydroxycocaine testing, at present, is not "generally accepted" and, as such, may not be considered by this Tribunal as proof of the charged misconduct. The Tribunal is further concerned by the lack of the availability of a confirmatory test for

Psychemedics' hydroxycocaine findings due to the lack of a sufficient amount of the A-sample for testing and, presumably, no method for offering Respondent the option of having a portion of his C-sample tested for hydroxycocaines by another laboratory – options that have been available to every other Respondent in prior Department hair testing cases.

The Tribunal further found Respondent's testimony at trial to be credible and accepts Respondent's consistently expressed position, at his official Department interview and at trial, that he has never knowingly ingested cocaine and that his test results were a complete surprise to him. The Tribunal credits Respondent with immediately submitting to a follow-up test of his head hair, which was tested by Psychemedics and found to be negative. It is also significant that Respondent was tested by the Department in January 2021, testing negative. And while the Tribunal does not find the results of Respondent's fingernail testing to be sufficiently reliable to disregard his April 2021 leg hair test, the Tribunal credits Respondent with attempting to prove his innocence by submitting the only other feasible bodily sample known to the Tribunal with a lookback period equivalent to that of body hair.

While Respondent also offered a possible contamination scenario that was possible but unlikely, the Tribunal understands the scenario to constitute Respondent's best guess as to how his hair samples might have been contaminated. While there are certain illicit substances that are unusual enough that unwitting exposure may require explanation, here the record evidence is that the presence of trace amounts of cocaine in our habitat is not unusual.[15] Accordingly, while a finding by the Tribunal that Respondent's contamination scenario is persuasive might tip the scales in Respondent's favor, the Tribunal regards a finding that Respondent's contamination

[15] A trace amount may be enough to contaminate a hair sample, upon which just over a billionth of a teaspoon of cocaine (5ng), after washing, may cause a positive result. (Tr. 224, 511-13, 904; Dept. Ex. 23)

scenario is unlikely to be in no way probative of the charged misconduct. Rather, the burden rests with the Department to prove by a preponderance of the evidence that Respondent wrongfully ingested cocaine, which in this case required it to show that the scientific test it has relied on to establish ingestion is capable of distinguishing between ingestion and any reasonable contamination scenario. The Department has failed to do so in this case.

Finally, the Tribunal was troubled by the large disparity between the concentrations of cocaine found in Respondent's two (2) samples tested by Psychemedics and the sample tested by Quest. As both Dr. Lykissa and Dr. Kidwell explained, a telltale sign of contamination would be that hair from one part of the body contains a significantly higher or lower drug concentration than that from another (Tr. 391, 631 ["when you get dirty[] you don't get evenly dirty"]). Here, no testimony was presented to contradict Respondent's testimony that his A and B-samples were taken from his left calf and his C-sample was taken from his left shin. Accordingly, the disparity in results offers some evidence supportive of a contamination scenario.

Drug testing remains a valuable tool to the Department in its pursuit to combat illicit drug use in its ranks. Hair testing offers a far greater lookback period than urine, providing the Department with a better indicator for the likelihood of past drug use.[16] Even where, as here, the test may not be determinative of drug use, the results may provide the Department with important information justifying an immediate investigation, preemptory suspensions or modifications to an officer's duty status, and further ordered drug testing.

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[16] *See Matter of City of NY v. Patrolmen's Benevolent Assn. of the City of NY, Inc.*, 14 NY3d 46, 51 [2009] [excerpting the Department's August 2005 FINEST message addressed to all commands announcing that hair testing would be expanded to replace urine testing for most drug testing due to the many benefits of testing hair over urine].

Accordingly, for the foregoing reasons, Respondent is found Not Guilty of the charged misconduct and should be restored the time, pay, and benefits, for the period he served on suspension in connection with this disciplinary matter.

Respectfully submitted,

Josh Kleiman
Assistant Deputy Commissioner Trials

DISAPPROVED
NOV 03 2022
POLICE COMMISSIONER